

SAFETY DATA SHEETS

This SDS packet was issued with item:

077155724

The safety data sheets (SDS) in this packet apply to one or more components included in the items listed below. Items listed below may require one or more SDS. Please refer to invoice for specific item number(s).

070442343 070442350 070483453 070849984 070850024 273005804

Material Safety Data Sheet

IPS Empress Universal Glaze Spray

Date of issue / Reference 3; 0404233

Replaces version of 240280422

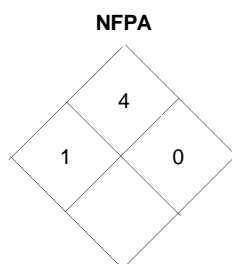
Date of printing 3; 0404233 Sheet No. 1747

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Company Ivoclar Vivadent AG, Bendererstrasse 2, FL - 9494 Schaan
Principality of Liechtenstein

1 Commercial product name and supplier

1.1 Commercial product name / Designation **IPS Empress Universal Glaze Spray**



HMIS	
H	1
F	4
R	0
C	

1.2 Application / Use Ceramic

1.3 Producer Ivoclar Vivadent AG, Bendererstrasse 2, 9494 Schaan
Principality of Liechtenstein (FL)

1.4 Supplier Ivoclar Vivadent, Inc.
175 Pineview Drive, Amherst NY 14228, USA
2785 Skymark Ave., Unit 1 Mississauga, ON L4W4Y3, Canada
MSDS prepared by Andejeet Gulati. Tel. No. 716 691-0010

1.5 24 Hour Emergency Assistance Emergency-Call USA- Infotrac: 1-800-535-5053
Emergency-Call Canada - Canutec: 1-613-996-6666
General MSDS Assistance US: 1-800-533-6825
Canada: 1-800-263-8182

2 Composition

2.1 Chemical characterization

2.2 Hazardous components Propellant gas
CAS No. 75-28-5 Isobutane
R12: Extremely flammable.

2.3 Further information Not for intraoral application

3 Hazards identification Extremely flammable.

4 First aid measures

4.1 Eye contact Flush eyes with plenty of water (10-15 min.). Call a physician.

4.2 Skin contact Wash with water.

4.3 Ingestion No hazards anticipated from swallowing small amounts incidentally

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to normal handling.

4.4	Inhalation	Take into fresh air. If you feel unwell, seek medical advice (show this safety data sheet).
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4.5	Further information	None.
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5.1	Suitable extinguishing media	Carbon dioxide, sand, foam, dry chemicals
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5.2	Extinguishing media to avoid	Do not use direct water stream.
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Test method:

5.3	Flash point	-118 °F
-----	-------------	---------

5.4	Ignition temperature	860 °F
-----	----------------------	--------

5.5	Explosion limits	Lower:
		Upper:

5.6	Further information	None.
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Dispose of according to local and national regulations.

7.1	Handling	Only adequately trained personnel should handle this product.
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7.2 Industrial hygiene Usual hygienic measures for dental practice.

7.3	Storage	Do not expose to direct sunshine. Store at 2-28 °C / 36-82 °F
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7.4 Place of storage	Store in a well ventilated, cool, dry area. Store away from sources of ignition and heat.
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7.5	Fire- and explosion-protection	Comply with special regulations for aerosols. Storage class VCI: 2B Note: TRGS 300
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8.1	Exposure controls	Provide adequate local ventilation.
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8.2	Exposure limit values	not determined
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8.3 Occupational exposure controls

8.3.1 Respiratory protection Aerosol: Do not breathe vapour or spray.
In poorly ventilated areas, use air-purifying respiratory protection
apparatus (type A).

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- 8.3.2 Hand protection Not required.
- 8.3.3 Eye protection Safety goggles
- 8.3.4 Other Eye wash fountain should be located in immediate work area.
- 8.4 Environmental exposure controls

9 Physical and chemical properties

- 9.1 Appearance liquified gas
- 9.2 Colour colourless
- 9.3 Odour practically odourless
- 9.4 Change of physical state Test method:
not applicable
- 9.5 Density
- 9.6 Vapour pressure
- 9.7 Viscosity
- not applicable
- 9.8 Solubility
- 9.9 pH not applicable
- 9.10 Further information
- Part. coeff. n-octanol/water
- Evaporat. rate
- None.

10 Stability and reactivity

- 10.1 Thermal decomposition Conditions to Avoid (see 7.1 - 7.5)
- 10.2 Hazardous decomposition products None under normal conditions of storage and use.
- 10.3 Conditions / materials to avoid None under normal conditions of storage and use.
- 10.4 Further information None.

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11.1	Acute toxicity	Do not breathe vapour. Signs and symptoms of excessive exposure may be narcotic effects. If liquid contacts skin and eyes, evaporation may cause frost-bite type injury due to rapid cooling.
11.2	Subacute / Chronic toxicity	
11.3	Further information	Excessive exposure may cause eye and respiratory irritation.

- 12.1 Ecotoxicity
- 12.2 Mobility
- 12.3 Persistence and degradability
- 12.4 Bioaccumulative potential
- 12.5 Further information

No ecological problems to be anticipated if properly handled and used.
No bioconcentration is expected because of the volatility and degradability of this material.

Take to an approved landfill or a waste incineration plant, under conditions approved by the local authority.

14.1	Transport at land	ADR	2.1	RID	2.1
		UN Number	1950	Kemler Number	
		Packing Group		---	
		Proper shipping name			
14.2	Transport at sea	ADNR	2.1	IMDG	32-04
		UN Number	1950		
		EMS	F-D, S-U	MFAG	---
		Packing Group		---	
		Proper shipping name		Aerosols, flammable	
		Marine pollutant		0	

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14.3	Air transport	ICAO / IATA-DGR	Class 2.1
		UN Number	1950
		Proper shipping name	Aerosols, flammable
		Subsidiary Risk	---
		Labels	Flamm. Gas
		Packing Group	---
	Passenger airplane	Packing Instructions	203
		max.	75 kg
	Cargo Airplane	Packing Instructions	203
max.		150 kg	
14.4	Further information	None.	

This product requires classification according to the criteria of the "Gefahrstoffverordnung".

15.2 NFPA Storage

15.3	Further information	None.
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16 Other information

The above mentioned data correspond to our present state of knowledge and experience. The safety data sheet serves as description of the products in regard to necessary safety measures. The indications do not have the meaning of guarantees on properties.

This safety data sheet has been generated with the safety database 'ChemManager',
© ASSiST Applied Software Solutions in Science and Technology AG,
Weierherweg 3, CH-4104 Oberwil, Switzerland

1 Identification

· **Product identifier**

· **Trade name:** ***IPS Empress Universal Glaze Spray / IPS e.max Ceram Glaze Spray***

· **Relevant identified uses of the substance or mixture and uses advised against**

No further relevant information available.

· **Application of the substance / the mixture** Auxiliary for manufacture of dental prothesis

· **Details of the supplier of the safety data sheet**

· **Manufacturer/Supplier:**

Ivoclar Vivadent Inc.
175 Pineview Drive, Amherst, N.Y. 14228
USA
Tel. +1 800 533 6825
Fax +1 716 691 2285

Ivoclar Vivadent Inc.
1-6600 Dixie Road
Mississauga, Ontario
L5T 2Y2
Canada
Phone: +1 905 670 8499
Fax: +1 905 670 3102

· **Information department:** Quality Assurance / Regulatory Affairs

· **Emergency telephone number:**

24 Hour Emergency Assistance:
Emergency-Call USA - Infotrac: 1-800-535-5053
Emergency-Call Canada - Canutec: 1-613-996-6666

General SDS Assistance:

US: 1-800-533-6825
Canada: 1-800-263-8182

2 Hazard(s) identification

· **Classification of the substance or mixture**

Flam. Aerosol 1 H222-H229 Extremely flammable aerosol. Pressurized container: May burst if heated.

Eye Irrit. 2A H319 Causes serious eye irritation.

STOT SE 3 H336 May cause drowsiness or dizziness.

· **Label elements**

· **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms**



GHS02 GHS07

· **Signal word** Danger

· **Hazard-determining components of labeling:**

propan-2-ol

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Trade name: **IPS Empress Universal Glaze Spray / IPS e.max Ceram Glaze Spray**

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· Hazard statements

Extremely flammable aerosol. Pressurized container: May burst if heated.
Causes serious eye irritation.
May cause drowsiness or dizziness.

· Precautionary statements

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Wear eye protection / face protection.
Pressurized container: Do not pierce or burn, even after use.
Do not breathe spray.
Do not spray on an open flame or other ignition source.
Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F.

· Classification system:

· NFPA ratings (scale 0 - 4)



Health = 1
Fire = 0
Reactivity = 3

· HMIS-ratings (scale 0 - 4)



Health = 1
Fire = 0
Reactivity = 3

· Other hazards

· Results of PBT and vPvB assessment

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

3 Composition/information on ingredients

· Chemical characterization: Mixtures

· **Description:** Mixture of the substances listed below with nonhazardous additions.

· Dangerous components:

75-28-5	isobutane	50-100%
67-63-0	propan-2-ol	25-50%

4 First-aid measures

· Description of first aid measures

· After inhalation:

Supply fresh air.

In case of unconsciousness place patient stably in side position for transportation.

· After skin contact:

Rinse with water.

Generally the product does not irritate the skin.

· After eye contact: Rinse opened eye for several minutes under running water. Then consult a doctor.

· After swallowing: Rinse out mouth and then drink plenty of water.

· Information for doctor:

· **Most important symptoms and effects, both acute and delayed** No further relevant information available.

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- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** Do not inhale explosion gases or combustion gases.
- **Additional information** Cool endangered receptacles with water spray.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
Ensure adequate ventilation.
Absorb liquid components with liquid-binding material.
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
Only adequately trained personnel should handle this product.
For use in dentistry only.
Keep away from heat and direct sunlight.
Open and handle receptacle with care.
Use only in well ventilated areas.
- **Information about protection against explosions and fires:**
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**
Store in a cool location.
Store only in the original receptacle.
Observe official regulations on storing packagings with pressurized containers.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**
Keep receptacle tightly sealed.
Store in cool, dry conditions in well sealed receptacles.
Protect from heat and direct sunlight.

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· **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

· **Additional information about design of technical systems:** No further data; see item 7.

· **Control parameters**

· **Components with limit values that require monitoring at the workplace:**

75-28-5 isobutane

TLV Short-term value: 2370 mg/m³, 1000 ppm

67-63-0 propan-2-ol

PEL Long-term value: 980 mg/m³, 400 ppm

REL Short-term value: 1225 mg/m³, 500 ppm

Long-term value: 980 mg/m³, 400 ppm

TLV Short-term value: 984 mg/m³, 400 ppm

Long-term value: 492 mg/m³, 200 ppm

BEI

· **Ingredients with biological limit values:**

67-63-0 propan-2-ol

BEI 40 mg/L

Medium: urine

Time: end of shift at end of workweek

Parameter: Acetone (background, nonspecific)

· **Additional information:** The lists that were valid during the creation were used as basis.

· **Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

Usual hygienic measures for dental practice.

Keep away from foodstuffs, beverages and feed.

Wash hands before breaks and at the end of work.

Do not inhale gases / fumes / aerosols.

Avoid contact with the eyes.

· **Breathing equipment:**

Not necessary if room is well-ventilated.

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

· **Protection of hands:**

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

After use of gloves apply skin-cleaning agents and skin cosmetics.

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

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Trade name: **IPS Empress Universal Glaze Spray / IPS e.max Ceram Glaze Spray**

· Eye protection:

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Tightly sealed goggles

9 Physical and chemical properties

· Information on basic physical and chemical properties

· General Information

· Appearance:

Form: Aerosol

Color: Whitish

· Odor: Characteristic

· Odour threshold: Not determined.

· pH-value: Not applicable.

· Change in condition

Melting point/Melting range: Undetermined.

Boiling point/Boiling range: Not applicable, as aerosol.

· Flash point: Not applicable, as aerosol.

· Flammability (solid, gaseous): Not applicable.

· Auto igniting: Product is not selfigniting.

· Danger of explosion: Product is not explosive. However, formation of explosive air/vapor mixtures are possible.

· Explosion limits:

Lower: Not determined.

Upper: Not determined.

· Vapor pressure: Not determined.

· Density: Not determined.

· Relative density: Not determined.

· Vapour density: Not determined.

· Evaporation rate: Not applicable.

· Solubility in / Miscibility with

Water: Not miscible or difficult to mix.

· Partition coefficient (n-octanol/water): Not determined.

· Viscosity:

Dynamic: Not determined.

Kinematic: Not determined.

· Other information: No further relevant information available.

10 Stability and reactivity

· Reactivity: No further relevant information available.

· Chemical stability: Stable under normal handling and storage conditions.

· Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.

· Possibility of hazardous reactions: Danger of explosion.

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- **Conditions to avoid** Keep away from heat and direct sunlight.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** None under normal conditions of storage and use.

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** Irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:** No further relevant information available.
- **Carcinogenic categories**

- **IARC (International Agency for Research on Cancer)**

67-63-0 | propan-2-ol

3

- **NTP (National Toxicology Program)**

None of the ingredients is listed.

- **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**
- Water hazard class 1 (Self-assessment): slightly hazardous for water
- Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**
- Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- Take to an approved landfill or a waste incineration plant, under conditions approved by the local authority.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

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14 Transport information

· **UN-Number**· **DOT, ADR, IMDG, IATA**

UN1950

· **UN proper shipping name**· **DOT**

Aerosols, flammable

· **ADR**

1950 Aerosols

· **IMDG**

AEROSOLS

· **IATA**

AEROSOLS, flammable

· **Transport hazard class(es)**· **DOT**· **Class**

2.1

· **Label**

2.1

· **ADR**· **Class**

2 5F Gases

· **Label**

2.1

· **IMDG, IATA**· **Class**

2.1

· **Label**

2.1

· **Packing group**· **DOT, ADR, IMDG, IATA**

Void

· **Environmental hazards:**· **Marine pollutant:**

No

· **Special precautions for user**

Warning: Gases

· **Danger code (Kemler):**

-

· **EMS Number:**

F-D,S-U

· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**

Not applicable.

· **Transport/Additional information:**· **ADR**· **Excepted quantities (EQ)**

Code: E0

Not permitted as Excepted Quantity

· **IMDG**· **Limited quantities (LQ)**

1L

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· **Excepted quantities (EQ)**

Code: E0

Not permitted as Excepted Quantity

· **UN "Model Regulation":**

UN1950, Aerosols, 2.1

15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**· **Sara**· **Section 355 (extremely hazardous substances):**

None of the ingredients is listed.

· **Section 313 (Specific toxic chemical listings):**

67-63-0 propan-2-ol

· **TSCA (Toxic Substances Control Act):**

75-28-5 isobutane

67-63-0 propan-2-ol

· **Proposition 65**· **Chemicals known to cause cancer:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

· **Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

· **Carcinogenic categories**· **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

· **TLV (Threshold Limit Value established by ACGIH)**

67-63-0 propan-2-ol

A4

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

· **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms**

GHS02 GHS07

· **Signal word Danger**· **Hazard-determining components of labeling:**

propan-2-ol

· **Hazard statements**

Extremely flammable aerosol. Pressurized container: May burst if heated.

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Trade name: IPS Empress Universal Glaze Spray / IPS e.max Ceram Glaze Spray

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Causes serious eye irritation.

May cause drowsiness or dizziness.

· **Precautionary statements**

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Wear eye protection / face protection.

Pressurized container: Do not pierce or burn, even after use.

Do not breathe spray.

Do not spray on an open flame or other ignition source.

Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F.

· **National regulations:**

· **Other regulations, limitations and prohibitive regulations**

The product is a medical device according to the Directive 93/42/EEC.

This product is classified as a medical device under US and Canadian regulations and has been reviewed by the US Food and Drug Administration and Health Canada.

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Date of preparation / last revision** 05/22/2015 / 3

· **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

Flam. Aerosol 1: Flammable aerosols, Hazard Category 1

Eye Irrit. 2A: Serious eye damage/eye irritation, Hazard Category 2A

STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3

· *** Data compared to the previous version altered.**